| VA SYME<br>SYMBOLS:                | BOL LIST DESCRIPTION:   |  |  |  |  |  |  |  |  |
|------------------------------------|---|--|--|--|--|--|--|--|--|
| Y                                  | OUTLET, COMBINATION TELEPHONE/DATA COMMUNICATION  |  |  |  |  |  |  |  |  |
| •                                  | FLOOR OUTLET, COMBINATION TELEPHONE/DATA COMMUNICATION  |  |  |  |  |  |  |  |  |
| Ø <sup>Av</sup>                    | CEILING OUTLET, AUDIO/VIDEO   |  |  |  |  |  |  |  |  |
| ▽ <sup>AV</sup>                    | WALL OUTLET, AUDIO/VIDEO  |  |  |  |  |  |  |  |  |
| <b>▼</b> <sup>w</sup>              | OUTLET TELEPHONE; LETTER INDICATES AS FOLLOWS:  J = JACK TYPE   |  |  |  |  |  |  |  |  |
| $oldsymbol{ abla}$                 | OUTLET DATA ONLY  |  |  |  |  |  |  |  |  |
| <b>Q</b>                           | JUNCTION BOX  |  |  |  |  |  |  |  |  |
| <b>S</b>                           | SPEAKER, CEILING MOUNTED  |  |  |  |  |  |  |  |  |
| <u>\$</u>                          | SPEAKER, WALL MOUNTED. MTD. 7'-6" [2286mm] AFF UNLESS OTHERWISE NOTED.  |  |  |  |  |  |  |  |  |
| $ abla^{M}$                        | OUTLET, TELEVISION  BLANK = 4 11/16" [119mm] MASTER ANTENNA OUTLET BOX W/BLANK  COVER, MTD. 18" [457mm] AFF UNLESS OTHERWISE NOTED.  M = MONITOR (SATV SYSTEM).   |  |  |  |  |  |  |  |  |
|                                    | TELEPHONE BACKBOARD (WALL MOUNTED)  |  |  |  |  |  |  |  |  |
| <u></u>                            | INTERCOM STATION (REFER TO SPECS. FOR FUNCTIONAL OPERATION OF INSTRUMENT & TYPE REQUIRED).  |  |  |  |  |  |  |  |  |
| ⊟₅                                 | INTERCOM STAFF STATION.   |  |  |  |  |  |  |  |  |
| □T                                 | CARD ACCESS READER; LETTER INDICATES AS FOLLOWS:  M=MOUNT  C-CEILING D-DESK F-FLUSH H-HIDDEN M-MULLION P-PEDESTAL R-RACK S-SURFACE W-WALL  T=TECHNOLOGY/TYPE  B-BARCODE F-ELEVATOR FLOOR CALL H-ELEVATOR HALL CALL M-MAG STRIP P-PROXIMITY S-SMART CARD  T-TOKEN SK-SMART CARD/KEYPAD |  |  |  |  |  |  |  |  |
| <b>⊠</b> <sup>M</sup> <sub>T</sub> | MOTION DETECTOR; LETTER INDICATES AS FOLLOWS:   |  |  |  |  |  |  |  |  |
|                                    | M=MOUNT  C-CEILING D-DESK F-FLUSH H-HIDDEN M-MULLION P-PEDESTAL R-RACK S-SURFACE W-WALL  T=TECHNOLOGY/TYPE  D-DUAL TECHNOLOGY IR-INFRARED M-MICROWAVE U-ULTRASONIC X-REQUEST-FOR-EXIT   |  |  |  |  |  |  |  |  |
| ■ M<br>■ T                         | PUSH BUTTON; LETTER INDICATES AS FOLLOWS:   |  |  |  |  |  |  |  |  |
| <b>'</b>                           | M=MOUNT         C-CEILING       D-DESK       F-FLUSH       H-HIDDEN       M-MULLION         P-PEDESTAL       R-RACK       S-SURFACE       W-WALL         T=TECHNOLOGY/TYPE       B-BELL       P-PANIC       R-DOOR       RELEASE         X-REQUEST-FOR-EXIT       A-ASSIST            |  |  |  |  |  |  |  |  |
| M > PTZ                            |   |  |  |  |  |  |  |  |  |
| 40                                 | SECURITY ACCESS, VIDEO CAMERA WITH LENS, ANGLE OF VIEW  |  |  |  |  |  |  |  |  |
|                                    | BASKET TRAY   |  |  |  |  |  |  |  |  |
| CSS                                | DOOR ACCESS CONTROL CONNECTIONS   |  |  |  |  |  |  |  |  |
| T T                                | GROUND BAR  |  |  |  |  |  |  |  |  |
| WAP                                | WIRELESS ACCESS POINT   |  |  |  |  |  |  |  |  |
| 0000                               | CONDUIT SLEEVES   |  |  |  |  |  |  |  |  |
|                                    | CONDUIT  EQUIPMENT RACK   |  |  |  |  |  |  |  |  |
|                                    | EQUIPMENT WALL RACK   |  |  |  |  |  |  |  |  |
| EM<br>▼                            | EMERGENCY CALL STATION  |  |  |  |  |  |  |  |  |
| HH                                 | EXTERIOR HAND HOLE  |  |  |  |  |  |  |  |  |

FIXTURE

FEET OR FOOT

**FOUTT** 

FLEXIBLE METALLIC CONDUIT

TELEPHONE FLOOR OUTLET

|  | TECHNOLOGY  | <u>ABBREVI</u> | <u>ATIONS</u>                               |  |
|--|---|----------------|---|--|
| A/E<br>ACC<br>ADDL<br>ADJ  | ARCHITECT/ENGINEER ACCESSIBLE ADDITIONAL ADJACENT, ADJOINING  |                | G OR GND<br>GEN<br>GTB                      | GROUND OR GENERATOR<br>GENERATOR<br>GROUND TERMINAL BOX  |
| AFC  | ABOVE FINISHED COUNTER, AUTOMATIC FREQUENCY CONTROL, OR AVAILABLE FAULT CURRENT   |                | HT<br>HZ                                    | HEIGHT<br>HERTZ  |
| AFF<br>AFG   | ABOVE FINISHED FLOOR<br>ABOVE FINISHED GRADE  |                | IMC<br>IR                                   | INTERMEDIATE METAL CONDUIT INFRARED  |
| AHJ<br>ALT<br>AMB OR A   | AUTHORITY HAVING JURISDICTION ALTERNATE AMBIENT   |                | J-BOX                                       | JUNCTION BOX   |
| ARCH<br>AUTO<br>AV   | ARCHITECT<br>AUTOMATIC<br>AUDIO VISUAL  |                | LED<br>LF<br>LP<br>LT                       | LIGHT EMITTING DIODE<br>LINEAR FEET (FOOT)<br>LIGHT POLE<br>LIGHT  |
| BAT<br>BC<br>BD  | BATTERY<br>BARE COPPER<br>BOARD   |                | LTG<br>LTNG<br>LV                           | LIGHTING<br>LIGHTNING<br>LOW VOLTAGE   |
| BFF<br>BIL<br>BLDG<br>BRKR<br>BYP                                    | BELOW FINISH FLOOR BASIC INSULATION LEVEL BUILDING BREAKER BY PASS  |                | MATV<br>MAX<br>MC<br>MECH<br>MH             | MASTER ANTENNA TELEVISION SYSTEM MAXIMUM METAL-CLAD MECHANICAL MANHOLE   |
| C<br>CAB<br>CALC<br>CAP<br>CAT                                       | CONDUIT CABINET CALCULATE CAPACITY CATALOG  |                | MIN<br>MT<br>MTD<br>MTG                     | MINIMUM<br>MOUNT<br>MOUNTED<br>MOUNTING  |
| CATV<br>CCR<br>CCTV<br>CD  | COMMUNITY ANTENNA TELEVISION CONTROL CONTACTOR CLOSED CIRCUIT TELEVISION CONSTRUCTION DOCUMENTS   |                | NA<br>NEC<br>NEMA                           | NOT APPLICABLE NATIONAL ELECTRICAL CODE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION  |
| CF<br>CF/OI<br>CFE   | CONTRACTOR FURNISHED CONTRACTOR FURNISHED/CONTRACTOR INSTALLED CONTRACTOR FURNISHED/OWNER INSTALLED CONTRACTOR FURNISHED EQUIPMENT                        |                | NEUT OR N<br>NFPA<br>NIC<br>NO<br>NS<br>NTS | NATIONAL FIRE PROTECTION ASSOCIATION NOT IN CONTRACT NORMALLY OPEN NO SCALE NOT TO SCALE   |
| CKT<br>CLG<br>CMU<br>COAX  | CIRCUIT CEILING CONCRETE MASONRY UNIT COAX CABLE  |                | OC<br>OD                                    | ON CENTER<br>OUTSIDE DIAMETER  |
| COMM<br>COMPT<br>CONC<br>CONT<br>CONTR<br>COORD<br>CPT<br>CRI<br>CTV | COMMUNICATION COMPARTMENT CONCRETE CONTINUE CONTRACTOR COORDINATE CONTROL POWER TRANSFORMER COLOR RENDERING INDEX CABLE TELEVISION COPPER                 |                | P PA PB PBPU PED PEND PNL PVC PWR           | POLE PUBLIC ADDRESS PANELBOARD, PULL BOX, OR PUSHBUTTON PREFABRICATED BEDSIDE PATIENT UNIT PEDESTAL PENDANT PANEL POLYVINYL CHLORIDE (PLASTIC) POWER |
| CU FT<br>CUR<br>DB<br>DC<br>DEG C                                    | CUBIC FEET CURRENT  DECIBEL OR DIRECT BURIAL DIRECT CURRENT DEGREES CELSIUS   |                | RCP<br>REC<br>RECPT<br>RGS<br>RM            | REFLECTED CEILING PLAN RECESSED RECEPTACLE RIGID GALVANIZED STEEL ROOM   |
| DEG F DEMO DIAG DISC DISTR DISTR PNL DN DPDT DPST                    | DEGREES FAHRENHEIT DEMOLITION DIAGRAM DISCONNECT DISTRIBUTION DISTRIBUTION PANEL DOWN DOUBLE POLE, DOUBLE THROW DOUBLE POLE, SINGLE THROW                 |                | REQD SATV SF SHT SI SPEC SPST SURF SW       | SATELLITE ACCESS TELEVISION SQUARE FOOT (FEET) SHEET INTERNATIONAL SYSTEM OF UNITS SPECIFICATION SINGLE POLE, SINGLE THROW SURFACE SWITCH            |
| DRSW<br>DWG<br>EC<br>EG<br>EL<br>ELEC<br>ELEV                        | DOOR SWITCH DRAWING  EMPTY CONDUIT EQUIPMENT GROUND ELEVATION ELECTRIC OR ELECTRICAL ELEVATOR   | <b>-</b> 1     | TC<br>TEL<br>TP<br>TPS<br>TTB<br>TV<br>TYP  | TIME CLOCK TELEPHONE TWISTED PAIR TWISTED PAIR SHIELDED TELEPHONE TERMINAL BOARD TELEVISION TYPICAL  |
| EMCP<br>EMER<br>EMI<br>EMT<br>ENCL<br>EPO<br>EPRF<br>ESMT            | EMERGENCY MONITORING CONTROL PAN EMERGENCY ELECTROMAGNETIC INTERFERENCE ELECTRICAL METALLIC TUBING ENCLOSURE EMERGENCY POWER OFF EXPLOSION PROOF EASEMENT | <b>CL</b>      | UFD<br>UGND<br>UL<br>UON<br>UPS<br>UTIL     | UNDERFLOOR DUCT UNDERGROUND UNDERWRITERS LABORATORY UNLESS OTHERWISE NOTED UNINTERRUPTIBLE POWER SUPPLY UTILITY                                      |
| EWC<br>EWH<br>EXIST  | ELECTRIC WATER COOLER ELECTRIC WATER HEATER EXISTING  |                | W<br>WP                                     | WATT<br>WEATHERPROOF   |
| FC<br>FIXT   | FOOTCANDLE<br>FIXTURE   |                | XFER<br>XFMR                                | TRANSFER<br>TRANSFORMER  |

## **GENERAL TELECOMMUNICATIONS NOTES:**

- 1. "1/TN301" INDICATES DETAIL NUMBER / SHEET NUMBER.
- 2. "(SEC/1)" INDICATES MATERIAL LIST ITEM IN HEX SYMBOL.
- 3. "# " INDICATES KEYED NOTE USED TO DESCRIBE ADDITIONAL INFORMATION OF WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL IT IS SHOWN WITH.

#### 4. ABBREVIATION KEY:

- T.C. TELECOMMUNICATIONS CONTRACTOR
- E.C. ELECTRICAL CONTRACTOR
- M.C. MECHANICAL CONTRACTOR
- AFF ABOVE FINISH FLOOR
- +#" MOUNTING HEIGHT FROM FINISHED FLOOR TO CENTERLINE
- OI&T OFFICE OF INFORMATION AND TECHNOLOGY FMS FACILITIES MANAGEMENT SERVICE

### 5. MOUNTING SUBSCRIPT KEY:

- 1. TELECOMMUNICATION OUTLETS
- A MOUNT ABOVE COUNTER (+6" TO CENTERLINE ABOVE COUNTER OR BACKSPLASH)
- 2. A SLASH IS USED BETWEEN TWO SUBSCRIPTS ie: A/H
- 3. REFER TO MATERIAL LIST AND SPECIFICATIONS FOR FULL DESCRIPTIONS AND MANUFACTURERS OF ALL DEVICES.

### 6. LINE TYPE KEY:

————NEW WORK BY THIS CONTRACTOR (DARK SOLID LINE)

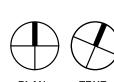
— — — — NEW WORK UNDERFLOOR OR UNDERGROUND BY THIS CONTRACTOR (DARK LONG DASHED LINE)

- NEW WORK BY OTHERS AND/OR EXISTING TO REMAIN (LIGHT SOLID LINE)

----EXISTING TO BE REMOVED BY THIS CONTRACTOR (DARK SHORT DASHED LINE)

### TELECOMMUNICATIONS INSTALLATION NOTES:

- 1. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE U.F.A.S. (UNIFORM FEDERAL ACCESSIBILITY STANDARDS) AND N.E.C. (NATIONAL ELECTRICAL CODE).
- 2. CONCEAL ALL CONDUIT IN WALLS, PARTITIONS, ABOVE CEILING, AND IN FLOOR SLAB, ETC. UNLESS OTHERWISE INDICATED ON THE PLANS OR IN THE SPECIFICATIONS. CONDUIT IN MECHANICAL ROOMS, AND STORAGE ROOMS WITHOUT CEILINGS MAY BE EXPOSED ON BUILDING STRUCTURE.
- 3. BOXES LOCATED ON OPPOSITE SIDES OF NON-RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU-THE-WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
- 4. FLUSH MOUNT ALL TELECOMMUNICATION OUTLETS AT +18" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED. OUTLETS MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED.
- 5. CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL TELECOMMUNICATIONS INSTALLATION THIS CONTRACTOR SHALL ADJUST OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
- 6. TELECOMMUNICATIONS EQUIPMENT SHALL BE MOUNTED TO ALLOW ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF TELECOMMUNICATION DEVICES ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
- 7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
- 8. ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS, REFER TO 27 05 03 AND 28 05 03.
- 9. CONTRACTOR SHALL REMOVE AND REINSTALL ALL CEILING TILES AS REQUIRED FOR THE EXECUTION OF TELECOMMUNICATIONS WORK THAT IS OUTSIDE THE CONTRACT LIMITS OF CONSTRUCTION. CONTRACTOR SHALL REPLACE CEILING TILES WITH IDENTICAL MATERIAL WHERE DAMAGED BY THIS CONTRACTOR.
- 10. ALL UNDERGROUND CONDUIT SHALL BE ROUTED AROUND BIO-RETENTION AREAS AND AREAS DESIGNATED FOR TREES.
- 11. IN TELECOM ROOMS, ALL BACKBOARDS SHALL BE 3/4" PLYWOOD AND SHALL BE FIRE RETARDANT TREATED.
- 12. ALL WALLS IN TELECOM ROOMS SHALL BE 2-HOUR FIRE RATED.
- 13. ALL TELECOM INSTALLATIONS [HEAD ENDS], MUST MEET THE OSHA STANDARD FOR EQUIPMENT SPACING OF 3 FEET TOTAL RADIUS PER EACH HEAD END INSTÂLLED.



# FULLY SPRINKLERED

|                    | CONSULTANTS:  |  |  | CONSULTANTS: CERTIFICATE OF AUTHORITY: ARCHITECT/ENGINEERS:  |                     |   | Drawing Title TECHNOLOGY COVER SHEET  | Project Title TENANT BUILDING |                       | Project Number 657-313D | Office of                    |                                |
|--------------------|---|--|--|--|---------------------|---|---|-------------------------------|-----------------------|-------------------------|------------------------------|--------------------------------|
|                    | STRUCTURAL ENGINEER:<br>KPFF CONSULTING ENGINEERS<br>1630 DES PERES ROAD, SUITE 100<br>ST. LOUIS, MO 63131      | CODE CONSULTANT/FIRE PROTECTION:<br>CODE CONSULTANTS, INC.<br>2043 WOODLAND PARKWAY, SUITE 300<br>ST. LOUIS, MO 63146  | AUTOMATIC TRANSPORT:<br>LERCH BATES INC.<br>8089 S. LINCOLN STREET, SUITE 207<br>LITTLETON, CO 80122 | HAZARDOUS MATERIALS:<br>ALTEC ENVIRONMENTAL CONSULTING, LLC<br>P.O. BOX 17867<br>SHREVEPORT, LA 71138-0867 | SATE OF MISSON      | CHRISTNER   | THE SEAL (S) AND SIGNATURE(S)<br>APPLY ONLY TO THE DOCUMENT TO<br>WHICH THEY ARE AFFIXED, AND WE<br>EXPRESSLY DISCLAIM ANY              |                               |                       |                         | Building Number 56           | Construction and Facilities    |
|                    | PHONE: (314) 835-0524  MECHANICAL/ELECTRICAL/PLUMBING: KJWW ENGINEERING CONSULTANTS #15 SUNNEN DRIVE, SUITE 104 | PHONE: (314) 991-2633  CIVIL ENGINEER: STOCK & ASSOCIATES CONSULTING ENGINEERS, INC. 257 CHESTERFIELD BUSINESS PARKWAY | PHONE: (720) 283-8182 ESTIMATING: KWAME BUILDING GROUP, INC. 1204 WASHINGTON AVENUE, SUITE 200       | PHONE: (318) 687-3771  IRRIGATION CONSULTANTS: IRM 0503 PANYON TREE  | NUMBER NE-200000999 | PI<br>ES  | RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO BE | Approved: Project Director    | Location JEFFERSON BA | RRACKS DIVISION         | Drawing Number               | Management                     |
| No. Date Revisions | ST. LOUIS, MO 63143<br>PHONE: (314) 645-1132  | CHESTERFIELD BOSINESS PARKWAY<br>CHESTERFIELD, MO 63005<br>PHONE: (636) 530-9100                                       | ST. LOUIS, MO 63103<br>PHONE: (314) 862 5344   | 9502 BANYON TREE<br>ST. LOUIS, MO 63126<br>PHONE: (318) 843-1461   | 2900 EL 2012        | 168 N. MERAMEC AVENUE   ST. LOUIS. MISSOURI 63105 | USED FOR ANY PART OF PARTS OF<br>THE PROJECT.<br>© COPYRIGHT 2012 CHRISTNER INC.  | / mat anders                  |                       | Drawn DARHAR KEIEVE     | <b>TN000</b> Dwg. 109 of 153 | Department of Veterans Affairs |

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